Amendments to the Specification

Please replace paragraph between the title and first line of text with the following rewritten paragraph:

This is a Divisional of Application No. 09/613,427 filed July 10, ~~2000.~~ 2000, and issued June 29, 2004, as U.S. Patent No. 6,755,720. The entire disclosure of the prior application is hereby incorporated by reference herein in its entirety.

Please replace the paragraph beginning on page 1, line 8, with the following rewritten paragraph:

The present invention relates in general to a vitrified bond tool, and more particularly to such a vitrified bond tool including ~~supper~~ super abrasive grains and used as a dressing tool for dressing a polishing tool such as a polishing pad which is used for a chemical mechanical polishing of a semiconductor wafer.

Please replace the paragraphs beginning on page 4, line 11, with the following rewritten paragraphs:

The first object indicated above may be achieved according to a first aspect of this invention, which provides a vitrified bond tool comprising: (a) a support body; (b) a vitrified bond layer which is formed on a working surface of the support body; and (c) a plurality of abrasive grains which are held by the vitrified bond layer so as to be fixed relative to the working surface of the support body and which are spaced apart from each other with spacing between ~~the adjacent~~adjacent ones of the abrasive grains.

In the vitrified bond tool according to the first aspect of the invention, the abrasive grains bonded to the vitrified bond tool are positioned relative to each other so as to be spaced apart from each other, so that each of the abrasive grains is bonded at ~~an increased~~a sufficiently large area of a surface thereof to the vitrified bond layer. Thus, all of the abrasive grains are bonded to the vitrified bond layer with sufficiently large bonding strength, thereby

preventing removal of the abrasive grains from the vitrified bond layer or the support body, when this vitrified bond tool is used as a polishing or grinding tool for polishing or grinding a workpiece, or as a dressing tool for dressing a polishing or grinding tool. The workpiece polished or ground by this vitrified bond tool, or the polishing or grinding tool dressed by this vitrified bond tool and a workpiece polished or ground by the polishing or grinding tool is advantageously prevented from being contaminated and damaged by removal of the abrasive grains. The vitrified bond tool maintains its cutting sharpness throughout successive polishing or grinding operations, and accordingly exhibits an excellent polishing or grinding performance with high stability. In view of these advantages, the vitrified bond tool of this invention is suitable for dressing a polishing pad which is required to assure a high degree of flatness in a surface of a semiconductor wafer by polishing a considerably small amount of the surface of the wafer.

Please replace the paragraph beginning on page 6, line 6, with the following rewritten paragraph:

In the present vitrified bond tool in which each of the abrasive grains is bonded at ~~an increased~~a sufficiently large area of its surface to the vitrified bond layer, all of the abrasive grains are bonded to the vitrified bond layer with sufficiently large bonding strength, even with a reduced thickness of the vitrified bond layer. The reduced thickness of the vitrified bond layer facilitates protrusions of the abrasive grains from the vitrified bond layer after a firing step, i.e., after the manufacture of the tool, so that the vitrified bond tool does not have to be subjected to a truing operation, prior to an initial use thereof. That is, the vitrified bond tool exhibits an expected polishing or grinding performance even in the initial use without the truing operation.

Please replace the paragraph beginning on page 8, line 19, with the following rewritten paragraph:

According to a fifth preferred form of the first aspect of the invention, the vitrified bond tool is designed as a dressing tool to be brought in sliding contact with a polishing surface of a polishing pad, for eliminating clogging in the polishing surface. The vitrified bond tool of this fifth preferred form further comprises, in addition to the plurality of abrasive grains as a plurality of first abrasive grains, a plurality of second abrasive grains whose average diameter is smaller ~~than the~~ than an average diameter of the first abrasive grains; wherein the working surface of the support body is a dressing surface which is forced onto the polishing surface of the polishing pad and which constitutes a part of a surface layer of the support body, at least the surface layer of the support body being made of an inorganic material; and wherein the second abrasive grains are held by the vitrified bond layer and are disposed on the dressing surface of the support body, such that the second abrasive grains are mingled together with each other, and such that the second abrasive grains are positioned between the first abrasive grains and are spaced apart from the first abrasive grains.

Please replace the paragraph beginning on page 15, line 25, with the following rewritten paragraph:

In the vitrified bond tool manufactured according to the present method, the first abrasive grains are held by the vitrified bond layer so as to be fixed relative to the dressing surface and are spaced apart from each other, while the second abrasive grains are held by the vitrified bond layer so as to be fixed relative to the dressing surface and are mingled together with each other such that the second abrasive grains are positioned between the first abrasive grains and are spaced apart from the first abrasive grains. Since at least the surface layer which is partially constituted by the dressing surface is made of the inorganic material, there is no risk of effluence of a metallic component even if a strong-acid fluid is used as the polishing fluid. Since the second abrasive grains whose average diameter is smaller than the average diameter of the first abrasive grains are positioned to be spaced apart from each other

or to be spaced apart from the first abrasive grains, each of the second abrasive grains is bonded at ~~an increased~~a sufficiently large area of a surface thereof to the vitrified bond layer with a sufficiently large bonding strength. Further, the presence of the second abrasive grains between the first abrasive grains on the vitrified bond layer prevent the vitrified bond layer from being brought in contact with the polishing pad, thereby avoiding breakage of the vitrified bond layer.

Please replace the paragraph beginning on page 46, line 19, with the following rewritten paragraph:

Each of the vitrified bond tools of Examples 1-5 and Comparative Example 1 was tested for dressing ~~an urethane~~a urethane pad which is used in a chemical mechanical polishing (CMP) of a semiconductor wafer including a metallic layer.

Please replace the paragraph beginning on page 64, line 2, with the following rewritten paragraph:

As described above, in the dressing tool 124 of the present invention, the first and second abrasive grains 136, 138 are held by the vitrified bond layer 140 to be fixed to the dressing surface 130, such that the first abrasive grains 136 are positioned to be spaced apart from each other, while the second abrasive grains 138 whose average diameter is smaller than that of the first abrasive grains 136 are mingled together with each other and are positioned to be spaced apart from the first abrasive grains 136. Since at least the surface layer which is partially constituted by the dressing surface 130 is made of the inorganic material, there is no risk of effluence of a metallic component even if a strong-acid fluid is used as the polishing fluid. Since the second abrasive grains 138 are positioned to be spaced apart from each other or to be spaced apart from the first abrasive grains 136, each of the second abrasive grains 138 is bonded at ~~an increased~~a sufficiently large area of a surface thereof to the vitrified bond layer 140 with a sufficiently large bonding strength. Further, the presence of

the second abrasive grains 138 between the first abrasive grains 136 on the vitrified bond layer 140 prevent the vitrified bond layer 140 from being brought in contact with the polishing pad 118, thereby avoiding breakage of the vitrified bond layer 140.

Please replace the paragraph beginning on page 65, line 23, with the following rewritten paragraph:

In the dressing tool 124 produced as described above, the first and second abrasive grains 136, 138 are held by the vitrified bond layer 140 to be fixed to the dressing surface 130, such that the first abrasive grains 136 are positioned to be spaced apart from each other, while the second abrasive grains 138 whose average diameter is smaller than that of the first abrasive grains 136 are mingled together with each other and are positioned to be spaced apart from the first abrasive grains 136. Since at least the surface layer which is partially constituted by the dressing surface 130 is made of the inorganic material, there is no risk of effluence of a metallic component even if a strong-acid fluid is used as the polishing fluid. Since the second abrasive grains 138 are positioned to be spaced apart from each other or to be spaced apart from the first abrasive grains 136, each of the second abrasive grains 138 is bonded at ~~an increased~~a sufficiently large area of a surface thereof to the vitrified bond layer 140 with a sufficiently large bonding strength. Further, the presence of the second abrasive grains 138 between the first abrasive grains 136 on the vitrified bond layer 140 prevent the vitrified bond layer 140 from being brought in contact with the polishing pad 118, thereby avoiding breakage of the vitrified bond layer 140.